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EXAMINER
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GUHARAY, KARABI

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2879

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Please find below and/or attached an Office communication concerning this application or proceeding.



Amendment, filed on 12/21/04 has been considered and entered.

Claims 36, & 1-12 and 42-47 are cancelled.

Amendment of claim 17 overcomes the rejection of claim 17 under 35 USC 112 second paragraph.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13, 30, 52-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weiss (US 4749902) in view of Sekhar et al. (US 6455107).

Regarding claims 13, 30 & 52-53, Weiss discloses a method of coating a metallic foil with a corrosion-protection film (lines 60 of column 1- line 36 of column 2), comprising the steps of applying a suspension of silica and then drying (thus adhering) to at least a portion of a metallic foil (lines 19-28 of column 3) exposing the silica containing metal foil assembly to a high temperature (see lines 30-38 of column 3), and attaching an electrical lead (4) to the foil (Fig 1, lines 23-24 of column 3).

But Weiss does not specifically disclose that the particular suspension of silica particles is a colloidal suspension, and does not disclose to expose the coated metal foil to a fusion temperature to effect fusion of silica particles to form a silica film on the foil.

However, Sekhar et al. disclose a method of making a corrosion resistance coating using colloidal slurry containing silica (lines 58-59 of column 3) and teaches that

Art Unit: 2879

this type of coating is highly corrosion resistant and further discloses the method of first applying colloidal slurry to the article and then exposing the silica colloid coated article to a sintering temperature to effect fusion of silica particles to form a silica film on the foil (lines 12-22 of column 4). Sekhar et al. further disclose that this method is advantageous and cost effective over PVD, or CVD or sol-gel method for producing thick coating for oxidation prevention (lines 9-14 of column 2).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the method of coating colloidal silica, disclosed by Sekhar et al. in the method of Weiss, since this is a cost effective method for coating the bodies where the coated body is used at high temperature, as in the case of lamp (lines 19-21 of column 4).

Regarding claim 14, Sekhar et al., disclose a method of dipping into the bath comprising colloidal silica (lines 47-49 of column 2).

Regarding claim 17, Sekhar et al. discloses that the bath comprises silica and an organic solvent (lines 58 of column 3-line 2 of column 4) but does not specifically mention organic solvent being methanol, however, selection of a known material for the suitable purpose is considered to be within the skill of art.

Regarding claims 19, & 20, Sekhar et al. disclose that the colloidal silica further comprises an organic binder (lines 1-2 of column 4), such as polyimides (see lines 29-35 of column 6).

Regarding claims 21 & 26, Weiss discloses that the foil comprises molybdenum (line 20 of column 1).

Regarding claims 22-24, Sekhar et al. disclose that the temperature of the fusion (sintering temperature) is above 900 degree centigrade (lines 26-29 of column 4).

However, depending upon the substance of the slurry one of ordinary skill in the art would have found obvious to choose different temperature appropriate for sintering for fusion of those particular colloidal particles in the slurry material, since it has been held that discovering an optimum value of a result, effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 27, Sekhar et al. disclose that the silica colloid is adhered by spray coating, rolling, brushing or misting (lines 46-48 of column 2).

Regarding claim 28, Sekhar et al. disclose that the colloid is exposed to plasma or laser (lines 3-6 of column 4).

Regarding claim 29, Sekhar et al. disclose that after applying a silica coating to the article, coated article is fired by using plasma, which include plasma torch and obviously comprising the step of passing the coated article through the plume of plasma torch which is the part of firing process through plasma torch (lines 3- 11 of column 4).

Regarding claim 31, Weiss discloses a second electrical lead (8) attached to the other end of the foil (6).

Regarding claims 33 & 34, Weiss discloses that the electrical lead forms an electrode for a high intensity discharge lamp such as halogen lamp (lines 47-48 of column 2).

Regarding claim 35, Sekhar et al. disclose a method of exposing an article to a predetermined temperature for a predetermined time comprising the steps of providing

Art Unit: 2879

a heat source elevating the temperature of the source to a predetermined value then and passing the article for fusion of silica particles through the heat source at a rate to effect the exposure at a predetermined temperature for a predetermined time (lines 3-10 of column 4).

Regarding claim 39, Sekhar et al. disclose that the exposure is conducted in an inert atmosphere (lines 17-19 of column 8).

Regarding claim 40, Sekhar et al. disclose that the heat source is selected from the group consisting of a conductor, induction coil, a furnace, inert gas plasma and a laser (lines 2-11 of column 4).

Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weiss and Sekhar et al. as applied to claim 30 above, and further in view of Miyoshi et al. (US 4613301).

Regarding claim 41, combined structure of Weiss and Sekhar et al. disclose a conductor for a heat source but does not mention a coiled tantalum wire as the heater, however, Miyoshi et al. disclose that tantalum coils are suitable as ignition heater coil (lines 67 of column 3-line 2 of column 4).

Thus it would have been obvious to one having ordinary skill in the art at the time the invention was made to use coiled tantalum as a heat source in the device of Sekhar et al. for its suitability as a heating coil as disclosed by Miyoshi et al.

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weiss and Sekhar et al. as applied to claim 30 above, and further in view of Hull et al. (US 5269810).

Regarding claim 32, the combined method of Weiss & Sekhar et al. meets all the limitations of claim 32 except for the limitation of attachment of foil by crimping a portion of the foil around the lead.

Weiss simply discloses that the leads are attached to the foil but does not disclose the method of attaching.

However, Hull et al. disclose that crimping of the metal foil against the lead is a convention method of attaching (lines 66 of column 4-lines 2 of column 5).

Thus it would have been obvious to one having ordinary skill in the art at the time the invention was made to choose the method of crimping since this is a well known process of attaching metal foil to the lead wire in the art of light bulb.

***Allowable Subject Matter***

Claims 15-16, 18, 25, 37-38 & 48-51 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 15, 16, & 48-51, the prior art of record neither shows nor suggests a method including all the claimed limitations of above claims, particularly the limitation of foil is withdrawn from the bath at a rate of about 1mm/sec to about 100 mm/sec.

Regarding claim 18, prior art of record neither shows nor suggests a combination of limitations set forth in claim 18, particularly comprising the limitation of applying a

voltage to the metallic foil concurrent with immersion and withdrawal of at least a portion of the foil in the bath.

Regarding claims 25, 37, 38, prior art of record neither shows nor suggests a method including all the limitations of claims 25, 37, 38, particularly the limitation of predetermined time is about one-half second.

### ***Response to Arguments***

Applicant argued that examiner is in error by considering Sekhar's sintering process as the fusion process for the colloidal particles. In this regards, applicant states, " A process of sintering a powder does not teach or suggest a process of fusing colloidal particle".

However, examiner disagrees, since process of sintering produces fusion of particles (see US 3977892, US 4209484, US 5381635).

Further applicant argued that that process of fusing is defined by melting. However, examiner disagrees since process of fusing is not always defined by melting. Melting two particles obviously fuse two particles together; further sintering which is heating particles at a temperature below the melting point also fuses particles together.

### ***Other Prior Art Cited***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure : Crossmore Jr. (US 3977892); Takimoto et al. (US 5438083)' Denise et al. (US 4209484); Nakagawa (US 6600266).

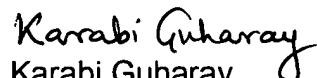
Art Unit: 2879

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is (571) 272-2452. The examiner can normally be reached on Monday-Friday 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is 703-872-9306.

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Art Unit 2879